

INNOVATIVE PLASTICS  
 FST, OSU COMPLIANT AND LIGHTWEIGHT  
 LEXAN™ XHR LIGHT SHEET  
 SPECIALTY FILM & SHEET



**APPLICATION**

Aircraft seat back and other interior applications

**INDUSTRY**

Aircraft Interiors

**THERMOFORMER**

Big Bear Plastics Products, Ltd.

**KEY CHALLENGES**

Design flexibility, weight savings and meeting heat release, flame, smoke and OEM toxicity requirements

**SOLUTIONS**

SABIC's new LEXAN™ XHR LIGHT sheet

**RESULTS**

Up to 36% weight savings vs. PVC/PMMA-based solid sheet products, helping increase fuel efficiency

**CHALLENGES**

The aircraft interiors value chain shares a common focus on:

- reducing weight for better fuel economy
- encouraging design freedom to differentiate cabin interiors
- enhance the passenger experience
- meet regulatory requirements
- reduce system costs

**SOLUTION**

SABIC's new patent-pending high performance LEXAN XHR LIGHT sheet series is a complementary offering to SABIC's LEXAN XHR sheet portfolio. It is the lightest sheet with deep thermoforming

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ability available today, and can be used in applications where weight reduction is desired and high impact strength is not critical. It is also the lightest thermoplastic sheet option available, regardless of base material that meets stringent industry regulatory requirements, including

- Heat release (OSU 55/55)
- Flame, smoke density (FAR25.853)
- Toxicity (BSS7239, ABD0031)

With a density of 0.94 g/cm<sup>3</sup> and 1.07 g/cm<sup>3</sup> respectively, [LEXAN XHRL300](#) and [XHRL200 sheets](#) offer up to **36%** and **28% weight savings** respectively when replacing traditional polyvinyl chloride and acrylic blend (PVC/PMMA)-based solid sheet products.

## RESULTS

Using LEXAN XHR LIGHT sheet to replace PVC/PMMA-based solid sheet products on seat backs can help increase fuel savings by approximately \$660 for each kilogram of weight reduction<sup>1</sup>. This can help each single aisle jet **save up to \$33,000 in fuel costs each year**, based on an average plane with 150 seats. The potential savings is due to LEXAN XHR LIGHT sheet's innovative closed cell structure, which can be thermoformed into complex 3D shaped parts with very thin walls, offering substantial potential for overall weight savings and fuel efficiency across an airline fleet.

In addition to seat backs, the new solutions can be considered for interior components such as arm rests, tray tables, window shrouds, kick panels, side panels, seat trims, magazine holders, cockpit dashboard enclosures, partitions, luggage compartments and passenger service units.

<sup>1</sup> Source: Composites and Forecasts Consulting, LLC.

## FURTHER INFORMATION

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### WEBSITES

[www.sabic.com/sfs](http://www.sabic.com/sfs)

### CONTACT US

[Middle East and Africa](#)

T +966 (0) 1 225 8000

E [info@sabic.com](mailto:info@sabic.com)

[Europe](#)

T +31 (0)164 293678

E [sfs.info@sabic-ip.com](mailto:sfs.info@sabic-ip.com)

[Americas](#)

T 1 800 323 3783 (toll-free)

T 1 413 448 6655

E [Spinside.sales@sabic-ip.com](mailto:Spinside.sales@sabic-ip.com)

[Asia Pacific](#)

T +86 21 3222 4500

E [sfs.info@sabic-ip.com](mailto:sfs.info@sabic-ip.com)

[Media Inquiries](#)

E [banu.kukner@sabic.com](mailto:banu.kukner@sabic.com)

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